Multi Technique Combination for Earth Orientation Parameters, station and quasar coordinates

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The GRGS (Groupe de Recherche en Géodésie Spatiale) has developed a new approach to estimate geodetic parameters such as Earth Orientation Parameters (EOP), quasar coordinates for celestial frame (CRF) and station coordinates for terrestrial frame (TRF) in a global procedure. This strategy consists to combine normal equations derived from observations processed by several geodetic techniques (GPS, DORIS, LLR, SLR, VLBI) using a unique software (GINS) complying with IERS Conventions, constants and models for insuring homogeneity and consistency. This combination benefits of the advantages of each technique and the links between them using the common parameters such as EOP and zenithal tropospheric parameters.
We present the processing used and the solutions obtained over one year as a preliminary solution such as EOP compared to the IERS C04 series, station coordinates compared to the terrestrial frame ITRF2008 and quasars coordinates compared to the celestial reference frame ICRF2.